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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,915	12/09/2003	Matthew L. Cooper	CQ10210	4729

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EXAMINER
TIMBLIN, ROBERT M

ART UNIT	PAPER NUMBER
2167	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/729,915	COOPER ET AL.
	Examiner	Art Unit	
	Robert M. Timblin	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>01 February 2007</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,4-8,10-16,18,20-23 and 25-29* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,4-8,10-16,18,20-23 and 25-29* is/are rejected.

7) ☒ Claim(s) *3, 9, 19, and 24* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a) ☐ All b) ☐ Some * c) ☐ None of:

    1. ☐ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____.

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This office action corresponds to application 10/729,915 and applicant's remarks/amendments

filed 2/1/2007.

Response to Amendment

Claims 1, 3-16, and 18-29 have been examined and are pending prosecution. Claims 3, 9,

19, and 24 remain objected to for being dependent on a rejected base claim. Claims 2 and 17

have been cancelled at the request of the applicant.

Claim Objections

Claims 3, 4, 19, and 20 recite the limitation "the one pair" in the preamble. There is

insufficient antecedent basis for this limitation in the claim.

Specifically, it is unclear which one pair the claims are referring to. It is also unclear if

the two different equations are intended to determine the similarity value of the same pair.

Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

Claims 6 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the enablement requirement. The claim(s) contains subject matter which was not described

in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

These claims, as amended, recite an equation not defined in the specification (i.e. a Gaussian tapered $(2l+1) \times (2n+1)$ checkerboard kernel).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 11 has been amended to overcome the previous 35 USC 101 rejection and accordingly the rejection to this claim is withdrawn.

Claim 16 is now accepted under 35 USC 101 as the program instructions are realized to be stored on a storage medium to be executed on a general purpose computer. Accordingly the rejection to this claim is withdrawn.

Claim 26 has been amended to include input and output links supported by figure 18. The input/output links seem to be I/O interface, which could be application program interfaces (or software per se). Furthermore claim 26 includes circuits, routines, or applications. While a circuit is hardware, a "routine or application" is not (i.e. they are software). As claim 26 can still be construed as being software per se, it is accordingly rejected because software in itself is not

statutory. Further, by claiming software per se, no structure is claimed in the system of claim 26

and its depending claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 11, 12, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated over

Bellegarda et al. (Bellegarda hereinafter) (U.S. Patent Application 2005/0044487).

With respect to claims 1, 12 and 16, Bellegarda teaches A method for organizing a

plurality of data files using wherein at least one meta-data element is associated with each data

file, the method comprising

extracting, for at least some selected data files, at least one meta-data element associated

with a respective selected data (0025-0049).

organizing the extracted meta-data elements in a desired order' as building a list based on

similarity processing performed on descriptive metadata (table 1 of page 4 and Figure 2A-b, and

0047).

calculating pair-wise differences between values of each of the extracted meta-data elements (0036-0037);

inputting at least on value of a clustering sensitivity parameter (abstract, 0039), said clustering sensitivity parameter defining granularity of the clustering (0044 and table of page 4), and multiplying each pair-wise difference by the clustering sensitivity parameter to obtain a plurality of similarity values for determining clustering based on the similarity values and at a granularity defined by the clustering sensitivity parameter (0027, 0039-0040, and at least reference 303 of figure 3); and

dividing the selected data files into groups based on the similarity values (0025).

This rejection applies equally well to claims 12 and 16 as their claim language are essentially similar.

With respect to claim 11, Bellegarda teaches A method for organizing a plurality of data files stored in a digital memory using meta-data wherein at least one meta-data element that is at least associated with a corresponding one of the plurality data files, the method comprising:

extracting from the memory meta-data elements of the plurality of data files (0025-0049);

Calculating pair-wise difference between values of each of the extracted meta-data elements;

obtaining a desired value of a clustering sensitivity parameter for analyzing the meta data (table 1 of page 4 and Figure 2A-b, and 0047);

multiplying each pair-wise difference by the clustering sensitivity parameter to obtain a plurality of similarity values having granularity defined by the clustering sensitivity parameter (0027, 0039-0040, and at least reference 303 of figure 3);

determining a structure within the meta-data elements by comparing, for at least a subset

of the plurality of data files, the similarity values (figures 2A-B); and

storing the structure of the data files in a memory (0023).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 4-7, 10, 13, 18, 20-22, and 27 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bellegarda as applied to claims 1, 11, 12, and 16 above in view of Foote

(Foote, "Automatic Audio Segmentation Using a Measure of Audio Novelty', FX Palo Alto

Laboratory Inc).

With respect to claims 4 and 20 and similar claim 27, Bellegarda fails to teach

determining at least one similarity value as presented in the corresponding calculation.

Foote, however, teaches determining at least one similarity value as presented as the

calculation on page 452 where a distance measure is computed to yield a similarity score.

It would have been obvious to one of ordinary skill in the data processing art at the time

of the present invention to combine the teachings of the cited references because the computation

of Foote would have given Bellegarda system a property that can yield a similarity score (452,

subsection A). Such a calculation would help Bellegarda further analyze data files.

This rejection applies equally well to claims 20 and 27.

With respect to claims 5 and 18 Bellegarda fails to teach determining, for each of at least some data files, at least one novelty value for that data file based on the at least one similarity value for that data file and for a number of nearby data files.

Foote, however teaches this limitation as finding the novelty measure to detect a novelty value (subsection B 453-454).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the computation of Foot would have given Bellegarda system the ability to detect novelty value (454) and further to help analyze data files.

With respect to claims 6 and 22 Foote teaches determining at least one novelty value as presented as the calculation on page 454, where novelty $N(i)$ is computed to detect a novelty value. The Gaussian tapered checkerboard kernel can be found within reference to figure 3 on page 453. The motivation for combining Foote to Bellegarda can equally apply well from the rejection of claims 4 and 20 and similar claim 27 above.

With respect to claims 7, 13 and 21 Bellegarda fails to teach determining at least one boundary location between ones of the plurality of data files based on the at least one novelty value determined for at least some of the data files.

Foote, however, teaches determining at least one boundary location between ones of the

plurality of data files based on the at least one novelty value determined for at least some of the

data files as extracting segment boundaries (subsection C, 454) to estimate boundaries.

It would have been obvious to one of ordinary skill in the data processing art at the time

of the present invention to combine the teachings of the cited references because determining at

least one boundary location of Foote would have given Bellegarda system a good estimate of

boundaries (under *Audio segmentation and indexing 455).*

With respect to claims 10 and 25 Bellegarda fails to teach at least one parameter value

that maximizes the confidence value.

Foote, however, teaches at least one parameter value that maximizes the confidence value

as the similarity matrix S will have the maximum values (3rd paragraph in subsection A, page

452). The motivation for combining Foote to Bellegarda can equally apply well from the

rejection of claims 4 and 20 and similar claim 27 above.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bellegarda and Foote as applied to claims 4-7, 10, 13, 18, 20-22, and 27 above and further in

view of Platt.

With respect to claim 14 Bellegarda teaches determining a similarity value by comparing

at least some of the meta-data elements in one cluster of data files to at least some other ones of

the meta data elements in that element cluster of data files (0036).

Bellegarda fails to teach determining a dissimilarity value by comparing at least some of the meta-data elements in one cluster of data files to at least some of the meta-data elements in another cluster of data files.

Platt, however, teaches determining a dissimilarity value by comparing at least some of the meta-data elements in one cluster of data files to at least some of the meta-data elements in another cluster of data files (abstract) for finding differing items.

With respect to claim 15, Platt teaches determining a value corresponding to a desired grouping of the clusters of data files based on the differences of the similarity values and the dissimilarity values (col. 5 lines 43-48).

Claims 8, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellegarda and Foote as set forth in claims 4-7, 10, 13, 18, 20-22, and 27 above and further in view of Schwanke (US 5,485,621).

With respect to claims 8 and 23, the combination of Bellegarda/Foot fails to teach determining a confidence value for that boundary location. Schwanke, however, teaches this limitation (col. 21, lines 43-45) to provide a decision on which groups to combine.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because this teaching of Schwanke would have given the combination of Bellegarda and Foote's system a decision on which groups to combine (abstract, Schwanke).

With respect to claim 26, the limitations of this claim been addressed in the preceding claims set forth above. Accordingly, these claims have been rejected for the same reasons as set forth above by the combination of Bellegarda/Platt and Foote in further view of Schwanke.

Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Bellegarda as applied to claims 1, 11, 12, and 16 above in view of Gargi et al. ('Gargi' hereinafter) (U.S. Patent Application 2005/0027712 A1).

With respect to claim 28, Bellegarda fails to teach an exponentially decreasing function of the scalar magnitude of the difference between $t.sub\, j$ and $t.sub.j$ relative to K.

Gargi, however, teaches this limitation in the formula above [0055] and in respect to a weighting factor [0051] for efficiently organizing data.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the teachings of Gargi would have provided to Bellegarda's system aid in developing an organized collection of data ([0009], Gargi).

With respect to claim 29, Bellegarda fails to teach the similarity value of the at least one pair of the selected data files comprises a term depending on an inner product of $v.sub\, i$ and $v.sub\, j$ relative to K, where K Is the clustering sensitivity parameter value, $V.sub\, i$ is an actual

vector value determined form the I data file, and v.sub j is an actual vector value determined from the j data file.

Gargi, however, teaches this limitation in the formula below [0053] for efficiently organizing data.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the teachings of Gargi would have provided to Bellegarda system aid in developing an organized collection of data ([0009], Gargi).

Response to Arguments

Applicant's arguments with respect to claims 1, 11, 16, and 26 have been considered but are moot in view of the new ground(s) of rejection.

As seen in the above rejection, Bellegarda is believed to teach the limitation of a "value of a clustering sensitivity parameter" as claimed.

Claims 4-7, 10, 13-15, 18, 20-22, and 27 argued on page 16 of the Applicant's response remain rejected as the combination of Bellegarda and Foote teaches or at least suggests determining similarity values.

Claims 5 and 18 argued on page 16 of the Applicant's response remain rejected as the combination of Bellegarda and Foote teaches or at least suggests the claimed "novelty value".

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application 2003/0110163 by Chen et al. The subject matter disclosed

therein pertains to the pending claims (i.e. cluster granularity (e.g. paragraph 0044)).

U.S. Patent 7,027,124 to Foote on 11 April 2006. The subject matter disclosed therein

pertains to the pending claims (i.e. Gaussian checkerboard and similarity equations).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this
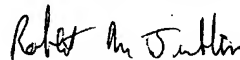
final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Timblin whose telephone number is 571-272-5627. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert M. Timblin

Patent Examiner AU 2167
4/4/2007

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